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| 09/759,695 | 01/12/2001 | Robert H. Halstead JR. | 2682.2013-003 | 2643 |

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| EXAMINER | |
|---|---|
| VO, TED T | |
| **ART UNIT** | **PAPER NUMBER** |
| 2191 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 01/26/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/759,695 | HALSTEAD ET AL | |
| | Examiner | Art Unit | |
| | Ted T. Vo | 2191 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,5-12,14-21 and 23-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-12, 14-21, 23-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. This action is in response to the amendment filed by RCE on 11/03/2006.

Claims 1-3, 5-12, 14-21, 23-26 are pending in the application.

### *Response to Arguments*

2. Applicants' arguments to the Claims rejected under the prior art, McLennan, have been fully considered but not persuasive. The amendment broadened the independent claims 1, 10, 19, 20. The arguments remain addressing the same as in the amendment filed on 02/09/06 that made final.

### *Double Patenting*

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-3, 5-12, 14-21, 23-26 provisionally rejected on the ground of nonstatutory double patenting over claims 1-12 of copending Application No. **09/759,697** (US Application No. US 2002/0100033 A1). This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Corresponding claims 1-12 (or 13-28) in the copending Application No. **09/759,697** recite the functionality that is equivalents to Claims 1-3, 5-12, 14-21, 23-26. Particularly see corresponding claims in the US Application Publication, where

> Claim 1 recites: defining a class which supports an option data structure having, in instances of the class, references to option values without preallocation of memory space for the full option values, the option data structure including a type description of the option values; and during compilation, using the type description in the option data structure to process an operation on the option value.
> Claim 5, recites: defining a first class with a first option data structure of a first form which supports, in instances of the class, references to option values without preallocation of memory space for the full option values; defining a second class with a second option data structure of a second form which supports, in instances of the second class, references to option values without preallocation of memory space for the full option values, the second form being different from the first form; and during compilation, encoding an option operation as a method call to an object of the first class and to an object of the second class without regard to the form of the option data structure supported by the class.
> Claim 6 recites: notifying objects of a change in an option value through a change handler identified by an option binding, the option binding being located by first searching a mapping data structure for a previously computed mapping to the option binding and, if no mapping was previously computed, by then computing the mapping to the option binding and storing the mapping in the mapping data structure.
> Claim 2 recites: wherein the option data structure identifies change handler code that is executed when an option value changes.

5. Claims 1-3, 5-12, 14-21, 23-26 provisionally rejected on the ground of nonstatutory double patenting over claims 1-12 of copending Application No. **09/760,031** (US Application No. US 2002/0112229 A1). This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

Corresponding claims 1-10 (or 11-25) in the copending Application No. **09/760,031** (US Application No. US 2002/0112229 A1) recite the functionality that is equivalents to the Claims 1-3, 5-12, 14-21, 23-26. Particularly, see corresponding claims 1, and 7 copending Application No. **09/760,031**, where

> Claim 1 recites: defining an object with defined fields to support values in preallocated memory space and with an option data structure which supports references to option values without preallocation of memory space for the full option values; and accessing a field value and accessing an option value in the object using expressions of the same syntactic form.
> Claim 2 recites: wherein the option data structure identifies change handler code that is executed when an option value changes.
> Claim 3 recites: wherein change handler code for one option is defined in different classes within a class inheritance hierarchy and the change handler code from each class is executed when the option value changes.
> Claim 7 recites: notifying objects of a change in an option value through a change handler identified by an option binding, the option binding being located by first searching a mapping data structure for a previously computed mapping to the option binding and, if no mapping was previously computed, by then computing the mapping to the option binding and storing the mapping in the mapping data structure.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

6. Timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) is used to overcome actual or provisional rejections based on nonstatutory double patenting ground provided the conflicting US applications: **No. 09/759,697** (US Application Publication No. US 2002/0100033 A1) and **No. 09/760,031** (US Application Publication No. US 2002/0112229 A1).

Applicants would be requested to do the same on the pending applications **US Application No. 09/759,697 and US Application No. 09/760,031.**

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1, 3, 5-6, 9-10, 12, 14-15 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by McLennan, Michael J., "Object-oriented Programming with [incr Tcl] Building Mega-Widgets with [incr Tk]" (Art of Record (AU), hereinafter McLennan).

As Per Claim 1, McLennan discloses a method of processing data comprising:

"***defining an object*** (a mega-widget, like Filetree, Fileviewer, buttons, labels, and so forth in p. 71, created from a based class) ***with an option data structure*** (E.g. the data assigned/set to the object, e.g., a spinint wigget has options such as background, textbackground, so forth, (p. 72), a mega-widget has option set in Figure 2-2, p. 74) ***which supports references to option values*** (E.g. see Figure 2-10, or page 87, lines 25-26, options values: -background (Figure 2-10) -troughcolor (p. 87)) ***without preallocation of memory space for the full option values, wherein the object is instantiated from a class within a class inheritance hierarchy*** " (Figure 2-10 shows that these option values are stored in an array, e.g. {-background, borderwidth, cursor, foreground}. Each option value is linked to object handler, e.g, see p. 66, the paragraph started with "But the interesting part...". According to the admission in the specification, the use of stored array/string will support references to option values (Note further see p. 28, discussion array, see p. 68, "array option"); ***and***

"***notifying the object a change*** (e.g. see p. 80. "For example, if we have a Spinint mega-widget named .s and we configure its master -background option: .s configure -background green) ***in an option value through change handlers*** (commands/canvas such as set, configure, option,

object name (see p. 7), etc., are: *change handlers*. e.g. ".s configure" as above is a *change handler,* -background green is an *option value*) ***identified by an option binding*** (such as 'background', and so forth, seen in Figures 2-7 and 2-8), ***the option binding being located by first searching a mapping data structure*** (that is configuration options, seen through the shapes that have the master list as seen in Figure 2-8 ) ***for a previously computed mapping to the option binding and, if no mapping was previously computed, by then computing the mapping to the option binding and storing the mapping in the mapping data structure,***" (See pages 95-97, all the Examples, particularly , see p. 95, "When you **click** on a file...": clearly the object oriented principle provides binding and it is another word of "click" when a user search through an option list, and see p. 96, "Each time the view changes...": clearly object oriented language provides notifying object and mapping that it is another word of "call" or "invoke" ). "***where the code for the change handlers for the option may be defined in different classes within a class inheritance hierarchy.*** " (Note Commands, such as set, get, used to set a change (seen in a defined object name), are command handlers, and C code are used to define these handlers (See p. 64).

As Per Claim 3, the rejection of claims 1 is incorporated respectively and further McLennan discloses:

-the option binding is a most specific option binding given a class and a base option binding. (E.g. see page 79, Figure 2-6 itk_option and associated text).

As Per Claim 5, the rejection of claims 1 is incorporated and further McLennan discloses:

"an option data structure includes a default value (E.g. see page 83, lines 12-16), the method further comprising, in a get operation to an instance of the class, if an option value which applies to the instance has been set, getting the set option value and, if a value which applies has not been set, getting the default value for the class." (E.g. see page 79, lines 3-9).

As Per Claim 6, the rejection of claims 1 is incorporated and further McLennan discloses:

"the option data structure comprises a linked list of option items having option values." (E.g. see page 79, Figure 2-6 itk_option and associated text).

As Per Claim 9, the rejection of claims 1 is incorporated respectively and further McLennan discloses:

"the class which supports the option data structure includes defined fields to support values in preallocated memory space." (Again, see as noted above of Claim 1).

As per Claim 10, the system claim is corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As Per Claims 12, 14-15 and 18, the rejection of claim 10 is incorporated and is rejected under the same reason set forth in connection of the rejection of claims 3, 5-6 and 9.

As per Claim 19 is the system claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As per Claim 20 is the computer-readable medium claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As Per Claim 21, the rejection of claims 20 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 6.

As Per Claim 23, the method of claim 1, wherein the code for one or more of the change handlers ***is executed when the option value changes.*** That is the execution of the commands. E.g., p. 80, ".s configure –background green", where "green" is an option value. It may be any color. When this change is set, it notifies other objects (components) in its hierarchical structure such as hull, label, uparrow, and downarrow etc.

As Per Claim 24, the rejection of claim 24 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 23.

As Per Claim 25, the rejection of claim 25 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 23.

As Per Claim 26, the rejection of claim 26 is incorporated and is rejected under the same reason set forth in connection of the rejection of claim 23.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLennan in view of Li et al. (US Patent No. 5,943,496) hereafter Li.

As Per Claim 2, the rejection of claim 2 is incorporated with Claim 1; McLennan does not explicitly disclose the mapping data structure is a hash table. However, Li teaches the mapping data structure is a hash table (see Column 9, Lines 20-25, "The VMX first registers the component object class name and the component object instance specification in a hash table referred to herein as the object/name table (step 720). The object/name table is for enabling the VMX to identify the component object instance associated with a particular instance name."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Li into the system of McLennan, to have the mapping data structure be a hash table. The modification would have been obvious because one of ordinary skill in the art would have been motivated to use the object/name hash table for enabling the VMX to identify the component object instance associated with a particular instance name by using hash table.

As Per Claim 11, the rejection of claim 10 is incorporated with Claim 11; and the rejection of claim 11 has the same reason set forth in the rejection of claim 2 above.

11. Claims 7-8 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McLennan in view of Hostetter et al., "Curl: A Gentle Slope Language for the Web," World Wide Web Journal, Spring, 1997 (hereinafter Hostetter).

As Per Claim 7, the rejection of claim 7 is incorporated with Claim 1; McLennan does not explicitly disclose a nonlocal option value applies to other objects in a nonlocal option hierarchy. However, Hostetter teaches a nonlocal option value applies to other objects in a nonlocal option hierarchy (See Section 3, Page 4, Lines 1-2, "The screen shot above reflects the fact the user has selected something besides the default color (red) and quantity (0)."). Color is a nonlocal option because all text in a given document is usually the same color. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Hostetter into the system of McLennan, to comprise a nonlocal option value applies to other objects in a nonlocal option hierarchy. The modification would have been obvious because one of ordinary skill in the art would have been motivated to implement properties in a dynamically bound environment using a deep binding mechanism.

As Per Claim 8, the rejection of claim 8 is incorporated with Claim 7; McLennan does not explicitly disclose the nonlocal option hierarchy is a graphical hierarchy. However, Hostetter further teaches the nonlocal option hierarchy is a graphical hierarchy. (See Section3, Page 4, Lines 1-2, "The screen shot above reflects the fact the user has selected something besides the default color (red) and quantity (0).") and (See Section4.3, Page 9, Lines 34-35, "text. Properties control the color, size and font family as well as indicating whether the text should be bold or italic."). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further incorporate the teaching of Hostetter into the system of McLennan, to comprise the nonlocal option hierarchy is a graphical hierarchy. The modification would have been obvious because one of ordinary skill in the art would have been motivated represent to a graphic image as a hierarchical tree of Graphic objects (Leaves of the tree are primitive Graphic objects which know how to draw themselves, usually after looking up the values of various properties).

As Per Claims 16-17, the rejection of claims 16-17 is incorporated with Claim 10; and the rejection of claims 16-17 has the same reason set forth in the rejection of claims 7-8 above.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708.

The facsimile number for the organization where this application or proceeding is assigned is the Central Facsimile number **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTV
January 19, 2007

TED VO
PRIMARY EXAMINER
TECHNOLOGY CENTER 2100